Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Promoting Interoperability in the 700 MHz Commercial Spectrum	)	WT Docket No. 12-69
	)	
	)	
Interoperability of Mobile User Equipment Across Paired Commercial Spectrum Blocks in the 700 MHz Band	)	RM-11592 (Terminated)

COMMENTS OF DISH NETWORK CORPORATION

I. INTRODUCTION AND SUMMARY

DISH Network Corporation ("DISH") respectfully submits these comments in the above-captioned proceeding[1] to oppose certain unnecessary and unjustified modifications to the service rules for Lower 700 MHz licensees. Specifically, it would not serve the public interest to rewrite the rules for all Lower 700 MHz E Block operations to reflect the conditions imposed on AT&T in the *AT&T/Qualcomm* order.[2] According to a report filed by a coalition of Lower 700 MHz A Block licensees[3] (the "Test Report"), high power E Block transmissions "do not impact Lower B and C

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[1] *See* Promoting Interoperability in the 700 MHz Commercial Spectrum; Interoperability of Mobile User Equipment Across Paired Commercial Spectrum Blocks in the 700 MHz Band, *Notice of Proposed Rulemaking*, WT Docket No. 12-69, RM-11592, FCC 12-31, at ¶ 43 (rel. Mar. 21, 2012) ("*Interoperability NPRM*").

[2] The Commission conditioned the assignment of Qualcomm's Lower 700 MHz D and E Block licenses on AT&T's compliance with the requirements that: (1) it operates on the associated spectrum under the same power limits and antenna height restrictions that apply to the Lower 700 MHz A and B Block licensees; (2) it does not use the acquired licenses for uplink transmission; and (3) its operations on the associated spectrum avoid undue interference to operations of other Lower 700 MHz A, B, and C Block licensees. *See* Application of AT&T Inc. and Qualcomm Incorporated For Consent To Assign Licenses and Authorizations, *Order*, WT Docket No. 11-18, 26 FCC Rcd 17589, 17616-18 ¶¶ 61-68 (2011) ("*AT&T/Qualcomm Order*").

[3] The entities are Cavalier Wireless, LLC, C Spire Wireless, Continuum 700 LLC, King Street Wireless, L.P., MetroPCS Communications, Inc., U.S. Cellular, and Vulcan Wireless.

Block device performance and are not an interoperability prerequisite."[4] In addition, the conditions imposed upon AT&T were based on competitive concerns that do not apply to DISH, and were devised in part to resolve technical issues specific to the Lower 700 MHz D Block that are not necessary with respect to DISH's E Block spectrum.

DISH generally supports openness and competition in the market for mobile broadband services and devices, but reducing DISH's authorized power levels in the Lower 700 MHz E Block (Channel 56) is unnecessary to achieve those goals. The Commission previously found the currently authorized E Block power levels to be in the public interest. DISH acquired the E Block spectrum at auction for nearly $712 million based on the service rules the Commission had established at the time. Changing the authorized power levels years later could foreclose innovative new services that DISH plans for the spectrum. In particular, DISH has invested resources to study, plan, and assess the potential of a broadcast video service assuming the 50 kW power levels currently authorized by the FCC's rules for the Lower 700 MHz E Block.

II. THE COMMISSION HAS PREVIOUSLY CONCLUDED THAT THE 700 MHz POWER LEVELS IN PLACE WHEN DISH ACQUIRED THE SPECTRUM ARE IN THE PUBLIC INTEREST

DISH holds 168 licenses in the Lower 700 MHz E Block (722-728 MHz) through its subsidiary, Manifest Wireless L.L.C.[5] DISH won these licenses in the 700 MHz auction held in 2008, and paid nearly $712 million for them. The 700 MHz licenses were granted on February 20,

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[4] *See* Letter from R. Nash Neyland, Cavalier Wireless LLC; Eric B. Graham, C Spire Wireless; E.B. Martin, Jr., Continuum 700 LLC; Allison C. DiNardo, King Street Wireless, L.P.; Mark A. Stachiw, MetroPCS Communications, Inc.; Grant B. Spellmeyer, U.S. Cellular; and Michele C. Farquhar, Counsel to Vulcan Wireless, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 12-69, Attachment at 5 (May 29, 2012) ("Lower A Block Licensees May 29, 2012 Ex Parte").

[5] DISH's E Block licenses together form a nationwide footprint, except for five of the largest U.S. metropolitan areas (New York, Boston, Philadelphia, Los Angeles, and San Francisco).

2009 and will expire on June 13, 2019; DISH has worked diligently to develop a business plan and deploy service for these licenses since obtaining them.[6]

When DISH bid on the 700 MHz licenses, its business plans were based (among other things) on the established power limits, which allow licensees to operate at power levels of up to 50 kW ERP.[7] Since initially setting service rules for the Lower 700 band, the Commission has repeatedly found that those power limits serve the public interest by fostering flexible use of the spectrum, while protecting against interference. The Commission initially established the 50 kW ERP power limit for the Lower 700 MHz band in its *2002 700 MHz Report and Order*.[8] The Commission concluded that this limit would promote efficient use and preserve technology neutrality in the band:

> A 50 kW maximum ERP limit [for Lower 700 MHz band licensees] will promote efficiency and maximize flexibility to the extent practicable by allowing the greatest number of different services to co-exist – and to serve more consumers – subject only to reasonable standards for non-interference. We believe such a power limit will produce the most efficient use of this spectrum resource.[9]

In the same order, the Commission also considered, and rejected, proposals that the 50 kW power level should be reduced to avoid harmful interference. While the Commission recognized the potential for interference to systems operating at lower power levels, it concluded that "any risk that such interference will be harmful can be mitigated so as not to outweigh the added flexibility that is

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6 *See generally* 700 MHz Interim Performance Status Report of Manifest Wireless L.L.C., Lead Call Sign WQJY944, Jan. 13, 2012.

7 *See* 47 C.F.R. § 27.50(c)(7). *See also* Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, et al., *Report and Order and Further Notice of Proposed Rulemaking*, WT Docket No. 06-150, 22 FCC Rcd 8064, 8097 ¶ 88 (2007) ("*2007 Report and Order*").

8 *See* Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), *Report and Order*, GN Docket No. 01-74, 17 FCC Rcd 1022, 1064 ¶ 102 (2002) ("*2002 700 MHz Report and Order*").

9 *Id.* ¶ 103.

afforded by the higher power limit."[10] The Commission revisited this decision in 2007 just prior to the Lower 700 MHz auction, and ultimately maintained the 50 kW limit established in 2002.[11]

Moreover, beyond the general goal of promoting flexible use of the spectrum, the Commission specifically chose the power limits in order to ensure that broadcast services (such as the one contemplated by DISH) could continue to be offered in the Lower 700 MHz Band. The Commission reiterated that the established limits "preserve the flexibility the Commission originally envisioned for the Lower 700 MHz Band, *i.e.*, the use of both broadcast and mobile services in the band, by providing an environment conducive to mobile systems in the paired blocks and an environment conducive to broadcast-type systems in the unpaired blocks."[12]

In the *2007 Report and Order*, the Commission also reexamined the issue of interference with respect to the 50 kW power limit and again expressly found that the designated power level provides appropriate protections. Specifically, the Commission affirmed its conclusion that "interference to adjacent channel base station receivers from transmitting Lower 700 MHz Band base stations would not be expected to occur when such stations are operating at power levels up to 50 kW ERP."[13] Significantly, the Commission also recognized the harm that can arise when incumbent users are subjected to changes in power limits *after* they have acquired licenses: "it would not be appropriate to reduce the power limits of incumbent Lower 700 MHz Band licensees,

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10 *Id*. ¶ 104.

11 *2007 Report and Order* ¶ 95.

12 *Id*.

13 *Id.* ¶ 100.

who acquired their spectrum with the expectation that they would be able to employ 50 kW ERP transmissions in the band."[14] DISH agrees.

III. THE CONDITIONS IMPOSED ON AT&T IN ITS QUALCOMM SPECTRUM ACQUISITION ARE UNNECESSARY FOR DISH'S PLANNED E BLOCK OPERATIONS

DISH opposes rewriting the rules for all Lower 700 MHz E Block operations to reflect the conditions imposed on AT&T in the *AT&T/Qualcomm Order*,[15] because such conditions are unnecessary and inapposite. As an initial matter, the power level reductions and other conditions imposed in the *AT&T/Qualcomm Order* arose at least in part from concerns about the excessive concentration of spectrum in the hands of AT&T – concerns absent here.[16]

Further, the Commission focused on the potential for interference from Lower D and E Block base station transmissions to Lower A, B and C Block base station reception, because AT&T's proposed downlink operations would mean that "the number of base stations transmitting on these frequencies nationwide could increase by two orders of magnitude compared to the number of base stations required for high power broadcast use."[17] In contrast to AT&T's stated intent to voluntarily operate a non-broadcast service at lower power levels,[18] DISH plans to deploy a broadcast video service in the E Block.

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14 *Id*. ¶ 96.

15 *See AT&T/Qualcomm Order* ¶¶ 61-68.

16 *Id.* ¶¶ 61, 66-67 (focusing on the impact AT&T's operations could have on third parties' ability to compete with the large incumbent carrier).

17 *Id.* ¶ 66.

18 *Id*. ¶ 62.

Also, the conditions in the *AT&T/Qualcomm Order* were imposed to protect base station reception of non-AT&T licensees in the A, B, and C Blocks in part due to the proximity of the D Block in particular: "Given the immediate adjacency of the D and C Blocks, we conclude that potential interference from D Block downlink operations is an especially significant threat to operations by C block licensees other than AT&T."[19] The E Block, by contrast, is spaced 6 MHz away from the closest 3GPP Band 12 base station receive band. The Band 12 base station filters should be fully capable of rejecting the 50 kW E Block signals.[20]

IV. THERE IS NO EVIDENCE IN THE RECORD DEMONSTRATING THAT THE CURRENT POWER LEVELS FOR E BLOCK WOULD CAUSE HARMFUL INTERFERENCE TO DEVICES IN THE LOWER 700 MHz B AND C BLOCKS

To date, there is no evidence in the record showing that DISH's currently authorized power levels would cause harmful interference to devices operating in the Lower 700 MHz B and C Blocks. The only publicly available study conducted on this issue that DISH is aware of (the Test Report) found exactly the opposite. The Test Report sets forth laboratory and field measurements which demonstrate that "a Band Class 12 device would provide normal performance in the presence of Lower E Block and Channel 51 broadcast towers, and there would be no interference threat to Lower B and C Block device reception."[21] DISH has reviewed the Test Report measurements with respect to the E Block, and supports the Test Report's conclusion that DISH E Block operations at

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19 *Id.* ¶ 66.

20 *See* Declaration of Mariam Sorond, Vice President for Technology Development, DISH Network Corporation, ¶ 8 ("Sorond Declaration") (attached).

21 *See* Lower A Block Licensees May 29, 2012 Ex Parte, Attachment at 68.

current power levels will not cause harmful interference to devices operating in the Lower 700 MHz B and C Blocks.[22]

In addition, other parties with interests in the interoperability issue have yet to submit any data that either supports or challenges the Test Report's finding that the authorized power levels in the E Block will not increase harmful interference into the B and C Blocks. For example, although AT&T criticized an earlier version of the Test Report,[23] it has yet to produce a study of its own to validate its present views. Indeed, AT&T previously *supported* the 50 kW ERP limit for 700 MHz licensees. In 2006, AT&T said that the "higher maximum power limit of 50 kW ERP for the Lower 700 MHz Band was specifically intended to promote maximum flexibility in the development and deployment of new services and has significant potential usage for the nationwide deployment of new mobile video and entertainment services."[24] AT&T also concluded that there was "no evidence supporting any reduction in this limit, which would adversely affect all licensees seeking to use this higher power limit to deploy new services. The Commission accordingly should maintain the existing limit to optimize usage and potential consumer benefits of this spectrum."[25] There is no record evidence at this time for the Commission to rely upon to justify changing the authorized power levels for the Lower 700 MHz E Block in order to accomplish any of the goals of this proceeding.

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22 *See* Sorond Declaration ¶¶ 4-7.

23 *See Interoperability NPRM* ¶ 39.

24 *See* AT&T Reply Comments, WT Docket Nos. 06-150, 01-309; CC Docket No. 94-102, p. 17 (October 20, 2006).

25 *Id*. at 18.

V. REDUCING POWER LIMITS FOR E BLOCK COULD FORECLOSE INNOVATIVE NEW USES OF THE SPECTRUM

Not only would reducing the authorized power levels for E Block be an unjustified departure from the Commission's flexible, technology-neutral approach to Lower 700 MHz service rules, upset DISH's settled expectations, and impede the development and execution of DISH's business plans, it would hurt the consumers who are the ultimate beneficiary of new and competing services.[26] Forcing DISH to operate at lower power levels could, among other things, prevent DISH from choosing particular technical standards for mobile video and would certainly increase infrastructure costs substantially. A change would also cause delay. DISH has spent years studying and testing broadcast mobile video standards, and a radical change to the service rules for the E Block could require DISH to re-start its design and development work.

Should the Commission lower power limits for the E Block, it could foreclose use of the spectrum for broadcast services; and, given the Test Report's conclusions, it would do so for no benefit toward the cause of interoperability. DISH has extensively studied and tested the use of its 700 MHz licenses to offer a broadcast video service.[27] There are several new developments in technology and market conditions that make a video service a promising use of DISH's E Block spectrum licenses; but changing the authorized power levels now could require extensive new network planning and invalidate some technology options. Just as one example, lower power levels could prevent DISH from adopting one of the broadcast mobile video standards, Advanced Television Systems Committee - Mobile/Handheld ("ATSC M/H"), which is better suited to higher

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[26] *See Interoperability NPRM* ¶ 43 ("We also seek comment on how such modifications would affect the operations and plans of Lower E Block licensees, other than AT&T.")

[27] *See* 700 MHz Interim Performance Status Report of Manifest Wireless L.L.C., Lead Call Sign WQJY944, Jan. 13, 2012, at 3.

power transmitters and requires far fewer towers.[28] In addition, lower power levels will make the network buildout substantially more costly, because transmitters operating at lower heights will have a substantially reduced coverage area, resulting in the need to deploy many more towers.[29]

Any Commission action to alter the established service rules in the Lower 700 MHz band may also curtail DISH's procedural and substantive rights. In fact, such a reduction may amount to a partial revocation of DISH's license, even though the circumstances warranting revocation under Section 312 are not present.[30] Furthermore, such a change would need to be accomplished by the notice and administrative hearing procedures pursuant to Section 312(c)[31] as opposed to a rulemaking. In addition, such a substantial and material change to the terms of DISH's authorization would offer a compelling basis for the Commission to waive the June 13, 2013 first buildout milestone[32] since DISH would need to discard and redo much of the development work it has undertaken to date.

VI. CONCLUSION

Any Commission decision to lower authorized power levels for Lower 700 MHz E Block licensees would be unnecessary, unjustified, and would harm the public interest by foreclosing innovative broadcast-type services in the spectrum. DISH therefore urges the Commission to maintain the presently authorized power levels for the E Block.

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28 *See* Sorond Declaration ¶ 10.

29 *Id.* ¶ 9.

30 *See* 47 U.S.C. § 312(a).

31 *Id.* § 312(c).

32 *See* 47 C.F.R. § 27.14(g) (requiring the Lower 700 MHz licensees "provide signal coverage and offer service over at least 35 percent of the geographic area of each of their license authorizations no later than June 13, 2013").

Respectfully submitted,

_____/s/_____

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June 1, 2012

DECLARATION OF MARIAM SOROND

I, Mariam Sorond, being over 18 years of age, swear and affirm as follows:

1. I make this declaration in support of the comments of DISH Network Corporation ("DISH") filed in response to the Notice of Proposed Rulemaking issued by the Federal Communications Commission ("Commission") in WT Docket No. 12-69 (FCC 12-31).

2. I am Vice President for Technology Development for DISH Network L.L.C. My duties in this role include evaluating DISH's spectrum holdings in the Lower 700 MHz E Block and supporting efforts to develop business opportunities using the licenses. Before DBSD North America, Inc. ("DBSD") was acquired by DISH, I was a Vice President for Technology Development at DBSD and oversaw its systems technology development. I am an engineer by training.

3. DISH holds 168 FCC licenses in the Lower 700 MHz E Block (722-728 MHz) through its subsidiary, Manifest Wireless L.L.C. DISH won these licenses in the 700 MHz auction held in 2008, and paid nearly $712 million for them. The 700 MHz licenses were granted on February 20, 2009 and will expire on June 13, 2019. DISH subsequently planned and constructed a mobile video trial system covering Atlanta, Georgia.

I. Analysis of the Conclusions Related to the E Block in the Report Commissioned by Several Lower 700 MHz A Block Licensees

4. In October 2011, a team of engineers commissioned by a coalition of Lower A Block licensees collected measurements of the DISH E Block mobile video system in Atlanta, Georgia to better understand the potential for strong ground-level signals in an operational mobile video environment. This study was funded Cavalier Wireless, LLC, C Spire Wireless, Continuum 700 LLC, King Street Wireless, L.P., MetroPCS Communications, Inc., U.S. Cellular, and Vulcan Wireless. The findings and conclusions of the study are set forth in the report titled "Lower 700 MHz Test Report: Laboratory and Field Testing of LTE Performance near Lower E Block and Channel 51 Broadcast Stations" dated April 11, 2012 and submitted for the record in WT Docket No. 12-69 on May 29, 2012 (the "Test Report").

5. DISH coordinated with the team of engineers during the data collection process, providing tower coordinates, antenna height, and ERP for all towers in Atlanta. DISH also confirmed the status of the E Block transmitters during data collection to ensure accurate power measurements. Altogether, this coordination ensured that the engineers were working with accurate data.

6. It also appears that the Test Report engineers measured field power levels and receiver performance for B and C Block devices consistent with sound engineering practices.

7. For the reasons set forth above, I support the Test Report's conclusion that DISH E Block operations at current power levels will not cause harmful interference to devices operating in the Lower 700 MHz B and C Blocks.

8. The Lower 700 MHz E Block is spaced 6 MHz away from the closest 3GPP Band 12 base station receive band. The Band 12 base station filters should be fully capable of rejecting the 50 kW E Block signals.

II. Effect of Lower Power Levels on DISH's Plans for the Lower 700 MHz E Block

9. Requiring DISH to operate at reduced power levels in its Channel 56 E Block licenses (i.e., the same power limits and antenna height restrictions that apply to the Lower 700 MHz A and B Block licensees) would make any broadcast video service DISH deploys substantially more costly due to the need to deploy more towers. This is because transmitters operating at lower power and lower antenna heights will have a substantially reduced coverage area.

10. Also, lower power levels could prevent DISH from being able to use one of the broadcast mobile video standards, Advanced Television Systems Committee - Mobile/Handheld ("ATSC M/H"). The ATSC-MH standard is more suited to higher power transmitters using fewer towers.

The foregoing declaration has been prepared using facts of which I have personal knowledge or belief or upon information provided to me. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information, and belief.

Mariam Sorond
Vice President, Technology Development
DISH Network L.L.C.

June 1, 2012